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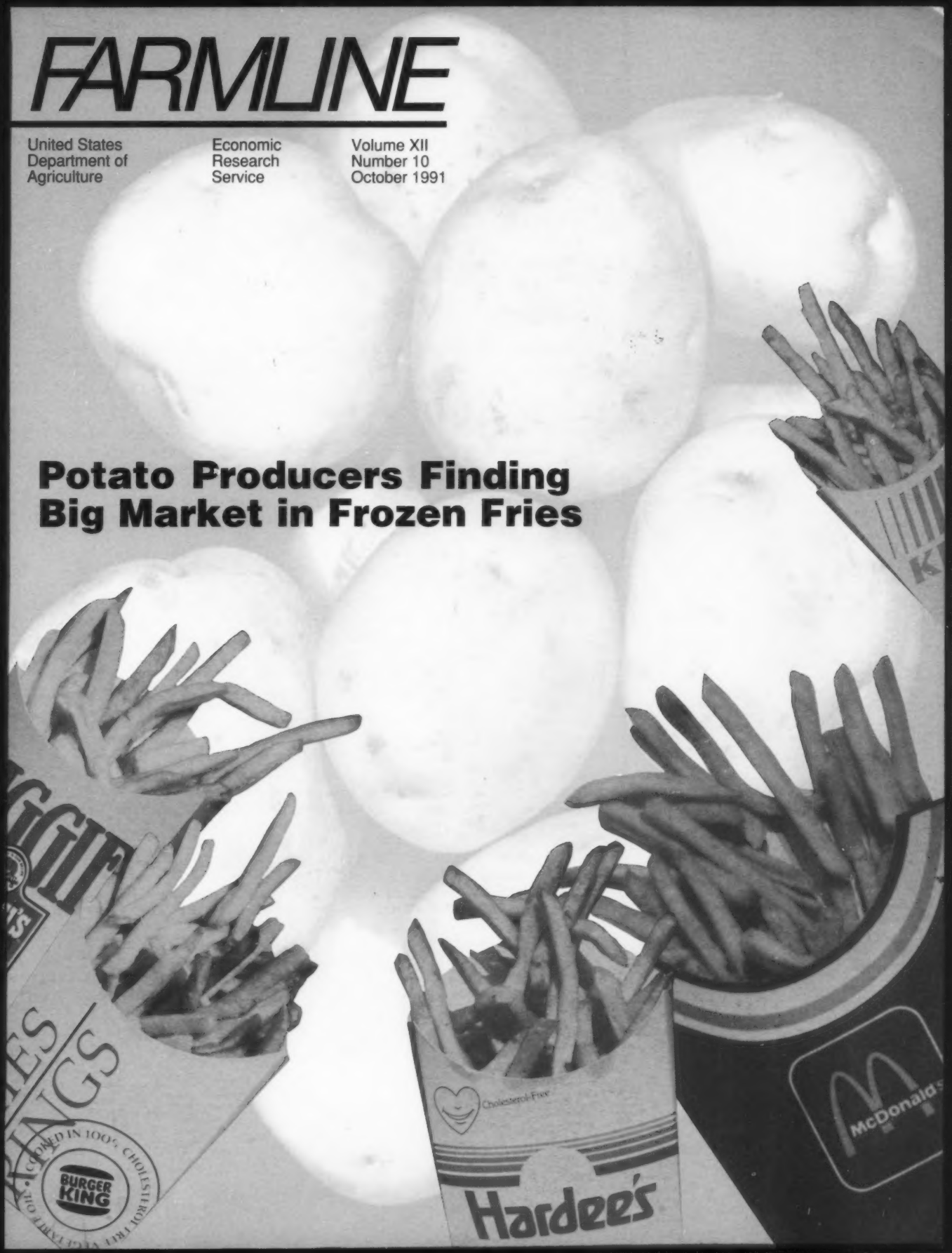
Potato Producers Finding Big Market in Frozen Fries



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PERSPECTIVES

The European Community (EC) is grappling with the difficulty of what to do with its rapidly rising public stocks of agricultural commodities (mainly grain, beef, and dairy products) caused by high production, a weak dollar, and stagnant world markets. The EC, which has approved record budget outlays for 1991 and 1992, is examining its Common Agricultural Policy (CAP) with a view to reform, says economist Mary Lisa Madell of USDA's Economic Research Service.

Agriculture Commissioner Ray MacSharry persuaded the EC Commission to adopt a package of CAP reform proposals in July 1991. The Council of Farm Ministers will have to accept the proposals before they can be implemented, and debate over the specific elements of reform is expected to continue well into the fall.

German reunification in October 1990 added more than 16 million to the EC population, and introduced the CAP into east Germany. "The transition provoked severe market disturbances," Madell says, "some of which were felt in the rest of the EC."

For example, east Germany had to cut its milk production by 20 percent to meet the EC quota—which it did by slaughtering cows or selling them to west Germany for slaughter. In addition, farmer marketing outlets in east Germany were closed off. "Consumers were reluctant to buy domestic products, so commodities were sold into public stocks," Madell says. "This depressed prices, particularly for beef and lamb."

The EC has acted to bring its oilseed program into compliance with a 1989 decision of the General Agreement on Tariffs and Trade (GATT). The GATT found that the EC program discriminated against imports and impaired tariff concessions granted in 1962. "The proposed new program would replace the subsidies to processors with per-hectare payments to producers," Madell says. "This may reduce oilseed production in the EC, which is an important market for U.S. oilseeds and products."

While the Uruguay Round negotiations on agriculture under the GATT dominated U.S.-EC trade relations in 1990, bilateral disputes have also caused friction. Dutch customs officials reclassified shipments of U.S. corn gluten feed as mixed animal feed, resulting in the imposition of high levies by the EC. The United States and the EC are discussing resolution of this dispute. The EC also banned imports of U.S. beef and pork on sanitary grounds, but negotiations have prompted lifting of the ban for some slaughter facilities.

Relations with the EC are of major importance for the members of the European Free Trade Association (EFTA, consisting of Finland, Iceland, Norway, Sweden, Liechtenstein, and Switzerland). "Each of these countries has a separate EC trade agreement," Madell says. "But they are negotiating to extend Europe 1992, which would make the EC a single economic market, to cover EFTA as a whole."

The EC Commission is also negotiating bilateral trade agreements with Czechoslovakia, Hungary, and Poland to prepare them for EC membership. "Liberalization of agricultural trade remains an important economic issue for Eastern Europe and a contentious one for the EC," Madell says. "The CAP is highly protectionist, and there is considerable resistance to allowing East European agricultural products greater access to EC markets."

FARMLINE

AGRICULTURE...NATURAL RESOURCES...RURAL DEVELOPMENT
Practical economic intelligence from USDA's Economic Research Service

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Almost as many potatoes are now used for french fries as for fresh use, thanks largely to the popularity of fast food outlets at home and abroad. The success of products made from frozen and dehydrated potatoes has also boosted U.S. consumption.

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Increasingly, farmers are leasing rather than buying land because it gives them greater management flexibility and reduces their financial risk. The most popular type of farmland tenure now combines owning and leasing land.

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The number of black farmers has declined substantially in the twentieth century. But today educators are introducing young blacks and other minorities to the wide range of careers available in agriculture. Black farmers are also gleaning technical advice from university and government programs.

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SPECIAL IN THIS ISSUE

Southeast Dominates Peanut Production 10

Although peanut production is concentrated in 9 major States, about 19 States produce some peanuts. Last year's drought led to yield and production declines in the Southeast, where 63 percent of the crop was planted in 1988-90. This latest installment in *FARMLINE*'s crop series includes a map pinpointing the major counties that produce peanuts.

Potato Producers Finding Big Market in Frozen Fries

Almost as many potatoes are being sold now for french fries as for fresh use.

Considering the popularity of fast food chains featuring french fries, that might not be surprising. What surely is startling, though, is how quickly this potato-use parity came about:

In 1960, American consumption of fresh potatoes, on a per capita basis, was 81 pounds a year. The per capita consumption of frozen potatoes—largely french fries—was just 7.6 pounds a year (on a fresh-weight basis). By 1989, fresh potato use had plummeted to about 50 pounds a year, while frozen potato consumption had risen by nearly 40 pounds, to about 46 pounds.

According to economist Gary Lucier of USDA's Economic Research Service, the most significant change over the past 30 years in the potato industry has been the surge in frozen use and the decline in fresh use. The success of fast food restaurants lies behind much of the shift toward frozen potato use.

Fast food outlets largely account for the rise in frozen use.

In fact, in 1989 about 87 percent of frozen french fries (4.5 billion pounds) was sold by foodservice outlets. And during the 1980's, the popularity of frozen french fries also increased in countries not known for potato consumption, particularly East Asian nations.

"In Japan, Taiwan, and South Korea, American-style fast food outlets expanded rapidly," says Lucier. "A positive byproduct of this for the U.S. potato industry has been strong gains in exports of frozen french fries."

Domestically, the success of frozen potato products and increased demand for potato chips and products made from dehydrated potatoes have spurred total U.S. per capita use from 106 pounds in 1959 to 126 pounds in 1989. And measured by per capita use, only wheat flour and dairy products exceed potatoes in importance in the American diet.

A Prominent Place

"Obviously, potatoes occupy a prominent place in American agriculture," says Lucier. "The 1989 potato crop was valued at $2.5 billion, contributing substantially to the farm revenue of many States. Maine and Idaho received 34 and 22 percent, respectively, of their 1988 farm cash receipts from the sale of potatoes."

In addition, potatoes account for billions of dollars of economic activity throughout the U.S. economy from such things as purchases of farm inputs (fertilizer and machinery used to grow potatoes, for example) to sales of french fries in fast food restaurants.

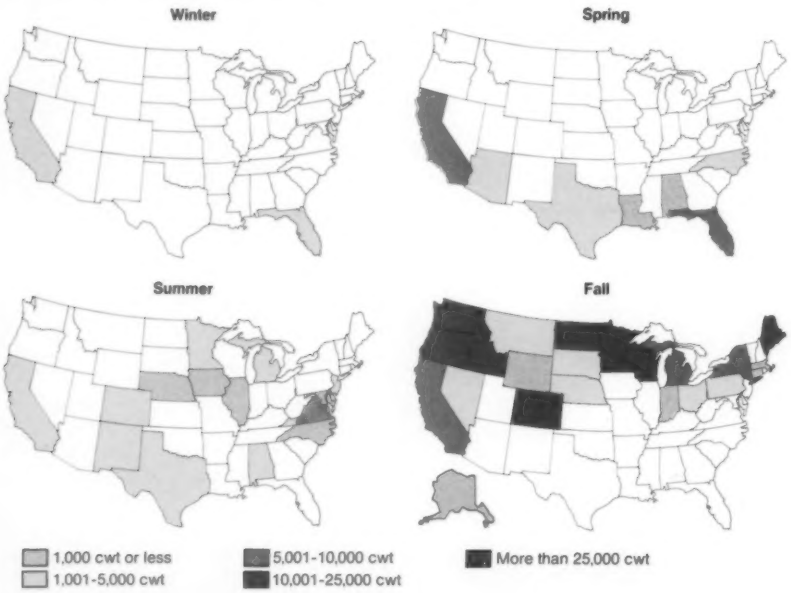
Although all 50 States report producing at least some potatoes, most U.S. potato production is concentrated in 9 States, according to statistician Arvin Budge of USDA's National Agricultural Statistics Service.

"These nine States have consistently produced about 83 percent of the U.S. potato harvest over the past few years," says Budge. "Idaho is by far the leading producer, accounting for about 28 percent of the 1989 crop. Washington is a distant second, with 17 percent of the 1989 crop."

The other seven big producers are North Dakota, Maine, Wisconsin, Colorado, Minnesota, California, and Michigan.

According to the 1987 Census of Agriculture, Hawaii was last in potato production and Arkansas next to last. Census figures show that, in 1987, 37 States had potato output of 4 million hundredweight (cwt) or less, and 33 of these States produced less than 1 million cwt.

U.S. Potato Production Varies by Season and State



1986-90 average.

USDA Provides a Wealth Of Potato Statistics

Whatever the state of the Nation's latest potato harvest, there's never any paucity of potato statistics.

Whether it's price, production, or stocks, USDA has the facts. No less than 12 major reports provide potato data considered indispensable by producers, distributers, and retailers, says ERS economist Gary Lucier.

Topping the list is *Potatoes*, an annual report issued by USDA's National Agricultural Statistics Service (NASS), which carries potato supply, disposition, and value estimates, by State, for the past two seasons.

If information is needed more quickly, there's *Crop Production*, which estimates potato production every month of the year except December. The first estimate of total planted acreage is carried in the July report, and the first estimate of fall-crop production is in the November report.

Potato Stocks, issued monthly by NASS from December to May, includes the revised fall-crop production in December, fresh fall-crop potato stocks from 15 major States, and processing potato use in 8 major States. Breaking down stocks a bit further is the monthly *Cold Storage*, also by NASS, which estimates stocks of frozen potatoes in the Nation's frozen food warehouses.

On the price front, there's the monthly (with an annual supplement) NASS *Agricultural Prices*, which includes estimates by State of monthly grower prices for potatoes, with a breakout of fresh and processing prices for Idaho and the United States.

A good companion to *Prices* is *Crop Values*, a NASS annual that contains State–level estimates of the marketing year average price and value of production of major crops, including potatoes.

Another guide is *Fresh Fruit and Vegetable Prices*. Produced annually by USDA's Agricultural Marketing Service (AMS), it compiles weekly USDA market news reports into monthly price observations for leading f.o.b. shipping points and New York and Chicago wholesale prices.

To find out where potatoes are coming from and where they're sent, there's *Shipments and Arrivals*—a weekly AMS report. It describes the volume of potatoes originating from major shipping points and the volume arriving at major cities. Annual supplements give detailed information on a monthly basis.

Getting a grasp on the international scene is easy with *Foreign Agricultural Trade of the United States*. Published monthly (along with annual supplements) by ERS, FATUS compiles and presents U.S. Department of Commerce trade data (in volume and value) for potatoes and potato products.

A further aid is the *Horticultural Products Review*, issued monthly by USDA's Foreign Agricultural Service. It contains the latest trade information for horticultural crops (including some potato products) and analysis and features on commodities.

A good overview of the potato industry is contained in *Potato Facts*, issued twice a year by ERS. Among the items covered in *Facts* are acreage, production, prices, trade, and use. Also helpful is the *Vegetables and Specialties Situation and Outlook*. Produced three times a year by ERS, this report brings together statistics for vegetables (including potatoes) from various sources and presents brief analyses of market trends.

USDA's statistical interest in potatoes isn't a recent phenomenon.

"Potatoes were among the first crops for which USDA estimated production in 1866," says NASS statistician Arvin Budge. "Potato acreage then was about 1.25 million acres, the same as today."

Production was nearly 67 million cwt in 1866, about equal to the amount grown last year in Washington State. From 1866 to the 1920's, production rose steadily due to expanding acreage. In 1922, acreage for harvest peaked at 3.9 million acres, but then declined toward the present level, about 1.1 million.

"The production trend continued steadily upward because of improved yields even as acreage decreased," says Lucier. "Current U.S. production is around 400 million cwt."

Early yields were about 50 cwt per acre and held close to that level until the 1920's. It was about this time that Luther Burbank improved potato breeding, leading to the development of the Russet Burbank, today's top variety.

Yields began soaring in the 1940's and now average around 300 cwt per acre.

"Yields were boosted to present levels by the use of commercial fertilizers, improved breeding and cultural practices, and the shift of acreage to Western States where irrigation is used extensively," Lucier says.

"Potatoes have returned $1.5 billion to $2.5 billion annually to U.S. growers in recent years and rank seventh in importance among American crops," says Lucier. "Even so, the United States produces only about 6 percent of the world's potatoes, ranking fourth behind the USSR, Poland, and China."

Westward Movement

Since the 1950's, most U.S. potato production has gradually been shifting westward. In the late 1800's, production was centered in New York, Pennsylvania, and Ohio. As the population moved west, so did potatoes.

"Michigan and Wisconsin came on the scene in the early 1900's, but New York remained the leading State until Maine took over in the mid-1920's," says Budge. "Rail transportation and the refrigerated railcar helped Idaho, Colorado, and California compete in distant U.S. markets during the 1930's and 1940's."

However, Maine stayed the leading producer until the late 1950's, when the rising popularity of processed (especially frozen) potatoes vaulted Idaho into the lead with its Russet Burbank variety (which is excellent for frying).

The percentage of the potato crop used for processing has nearly tripled over the last 30 years. In the 1989/90 marketing year, about 54 percent of the crop was processed and 31 percent was sold as fresh table stock. This compares with 19 percent processed in the 1959/60 marketing year, when fresh use dominated.

Processors used about 201.6 million cwt of potatoes in 1989/90, of which 59.3 percent was frozen, 21.9 percent chipped, 16 percent dehydrated, and 2.4 percent canned. About 85 percent of the 1989/90 crop was used for human consumption, with the remainder going for seed (7 percent), animal feed (1 percent), or being lost to pests and disease (7 percent).

"Currently, Idaho, Washington, and Oregon combine to produce half the U.S. crop, with much of this output processed into frozen

french fries," says Lucier. "The rise of extensive chipping potato production in North Dakota and Minnesota—along with new seed varieties—has pushed the Red River Valley into a heavy supporting role."

In 1953, the fall potato crop accounted for 65 percent of the U.S. total. Over the last 35 years, potato production has become more concentrated, with the fall crop now comprising about 85 percent of the U.S. total. Much of the fall crop is placed in storage to provide a steady supply for fresh and processing use throughout the winter and to furnish seed for the crop in the coming year.

"Potatoes are produced throughout the year in the United States," Lucier notes. "During the winter, they are grown in California and Florida. In the spring, California and several Southern States produce potatoes. During the summer, Southern and some Central States produce a crop similar in size to the spring crop. The fall crop is produced primarily in the Western, Northeastern, and North Central States."

Numerous varieties of potatoes are grown, but three general categories are Russets, Round White, and Red. Russet potatoes account for the largest share of the U.S. crop and are heavily concentrated in Western States. These varieties are grown for both fresh market and processing and are particularly well suited for frozen french fries.

Round White potatoes are grown nearly everywhere in the United States, with heavy concentration in the Northeast and Central States. These varieties are used for potato chips and fresh marketing. Red potatoes are grown mainly in the Central States and are used mostly as fresh-pack table potatoes. Yellow- and purple-skinned potatoes, although gaining in popularity, are still largely specialty items.

A Long History

Potatoes are native to South America, although Europe was the point of origin for the first potatoes brought to the North American continent.

"Potatoes were discovered in Peru by Spanish conquistadores in 1537, even though the Incas had been cultivating them for centuries, according to evidence dating back to the second century A.D.," says Budge. "The Spanish shipped potatoes back to Europe as a new food crop. Three centuries later, the potato's prime importance in some European countries was tragically demonstrated with the massive failure of the Irish crop from blight in 1845-46 and the widespread famine that followed."

As many as 2.5 million people perished from starvation and disease in Ireland, he adds. Another 1 million emigrated to the United States.

"Ireland was likely the source of the first potatoes introduced to North Americans," says Lucier. "A group of Presbyterian Scotch-Irish brought the potato along with them when they arrived in America in 1719 and settled near Londonderry, New Hampshire."

And although potatoes were slow to catch on because of superstition and prejudice that they were poisonous or just too plain, potatoes have become the most important vegetable crop in the United States, providing vegetable producers with one-fifth of their cash receipts. ■

[Based primarily on information provided by economist Gary Lucier, Commodity Economics Division, Economic Research Service, and statistician Arvin Budge, National Agricultural Statistics Service.]

Farmers Reaping Advantages Of Leasing Land

Ownership of the land is a tradition of long standing in U.S. agriculture. But traditions change when better ways are found, and this one is changing, too.

Farmers have been leasing more land, instead of buying it, in recent years.

"A desire for more management flexibility is one reason for this trend," says economist Denise Rogers of USDA's Economic Research Service.

"Many producers have found that they can lower their financial risk through leasing instead of owning land," Rogers says. Capital can be used for financing machinery, equipment, and other inputs, instead of buying land.

Large investments are commonplace in farming, and land represents the biggest investment of all. "Nearly three-fourths of U.S. agriculture's assets, by value, are in real estate," Rogers says.

The 1987 Census of Agriculture (the most recent one—the next is scheduled for 1992) showed that 41.7 percent of U.S. farmland was rented, compared with 38.9 percent in 1982, 37.4 percent in 1974, and 35.7 percent in 1969.

More than 402 million acres of farmland were rented in 1987, an increase of nearly 19 million since 1982.

At the same time, less land overall is being used for agriculture. Total land in farms decreased from 1.12 billion acres in 1959 to 1.0 billion in 1974 to 964 million in 1987.

Part Owners Predominate

The most popular type of farmland tenure now combines owning and leasing land. Part owners, who own some of the land they farm and rent some of it, accounted for 53.9 percent of the land in farms in 1987. However, since their farms tend to be larger, only 29.2 percent of farm operators were in the part-owner category.

Full owners—who own all the land they farm—accounted for nearly 33 percent of U.S. farmland in 1987 and comprised nearly 60 percent of all farm operators. Tenants,

Producers may lower their financial risk by leasing instead of buying.

who rent all the land they farm, make up the other category of farm tenure in the Census of Agriculture data. In 1987 they accounted for 11.5 percent of the farms and farmed 13.2 percent of the land. (In the 1930's, 40 percent of all farm operators were tenants.)

Leasing can be for a fixed cash payment, with the operator assuming all of the risk, or for a share of the crop and inputs, with the operator and landowner sharing the risk, or for some other agreed-to arrangement.

"Many types of share and fixed rental agreements are used by farmers around the country, but the Census data are not broken down into different types of leases," Rogers says.

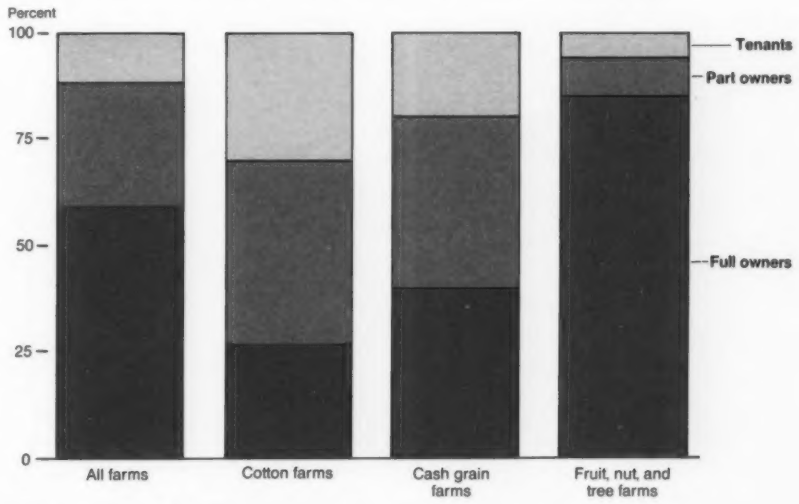
More than 87 percent of the leased farmland in 1987 was rented from non-operating landlords, who owned farmland but did not operate farms themselves. The remaining 13 percent was rented from landlords who also had their own farming operations.

According to type of farm enterprise, full ownership is highest for fruit, nut, and tree farms (85 percent) and lowest for cotton farms (27 percent). The proportion of tenant operators ranges from about 6 percent for fruit, nut, and tree farms to almost 30 percent for cotton farms.

Of 10 types of commodities, the highest percentages of land leased in 1987 were for cotton farms (63 percent), cash grains (54 percent), and vegetables and melons (50 percent). The lowest percentage, with only 15 percent of the land leased, was for fruit and tree nuts. Land leased for poultry operations totaled 25 percent, dairy farms 34 percent, and beef cattle operations 38 percent.

By areas of the country, the West South Central region (Arkansas, Louisiana, Oklahoma, and Texas) had the highest propor-

Farm Tenure Varies Greatly Among Different Types of Farm Operations



Source: Census of Agriculture, 1987.

tion of farmland leased, 48 percent, in 1987. The Pacific, East North Central, and West North Central regions were all in the 43-45 percent range. New England had the lowest rate—17 percent.

By State, Alaska was the highest at 73 percent of farmland leased, and Massachusetts and New Hampshire the lowest at 13 percent.

The top 10 farming States (in cash receipts, 1989) showed a range from 64 percent of farmland leased in Illinois to 24 percent leased in Wisconsin. The 1987 lease rates of the others in the top 10 were: Iowa 53 percent, Texas 49, Kansas 47, Nebraska 45, California 44, North Carolina 42, Minnesota 39, and Florida 25.

"Several of the major farm States raise a lot of cash grains, and leasing is more prevalent in that type of farming than in several other types—such as the production of beef cattle, dairy products, fruit, and tree nuts," Rogers says. "Larger farm operations, too, tend to lease land more than small operations."

In total amount of farmland leased, Texas led in 1987 with 59 million acres, followed by Kansas with nearly 25 million, North Dakota with 20 million, and Nebraska and Illinois with more than 18 million each.

Full-Owner Farms Smaller

Full owners tend to dominate the smaller classes of farms, Rogers says, and part ownership is the main tenure arrangement for larger farms. The average size of part-owner operations is 854 acres—452 rented and 402 owned. Full-owner operations average 257 acres, and tenant-operated farms 528 acres.

Part owners farm 54 percent of all land in farms and account for 47 percent of all farm-product sales. More than half of all farms with sales exceeding $100,000 annually are operated by part owners. Full-owner farms account for 28.7 percent, and tenant farms 14.3 percent.

"Land tenure influences farm production, marketing, investment, conservation, employment, and household decisions," Rogers says. She adds that tenure is a factor in such trends as the decline in farm numbers, the increase in farm size, and the adoption of new technologies.

"Ownership arrangements have a wide variety of equity and capital requirements," Rogers says. She adds that heavily indebted ownership, such as a mortgage financed by a low downpayment, may impose significantly more capital restrictions on land use and investments than does leasing the land.

Owning the land offers certain advantages, of course. "Ownership eliminates the costs and risks of negotiating leases or the risk of having a lease terminated," the economist says. It gives the owner a fuller set of rights than is likely to come with leasing, and can result in capital gains associated with appreciation.

"There is also an intangible measure of satisfaction from owning land, reflecting the importance our society places on ownership," Rogers says.

Leasing, on the other hand, provides a range of opportunities for access to farmland while spreading risk and managing cash-flow, she says.

Relative costs of land and capital influence decisions about buying or renting land for farm operations, Rogers says. Farms that require large investments in immobile capital—such as dairies or orchards—have higher rates of land ownership, because operators seek the security associated with ownership.

But the types of farm operations that require significant investment in mobile capital are more likely to lease land. Cotton and cash grain farms are examples.

Most of the increasing number of very large farms are operated by part owners. The only categories of farm size that have been showing increasing numbers are farms with sales of over $500,000 and those operating more than 1,000 acres.

"Farms with annual sales over $500,000 produce 38 percent of all agricultural products by value, although they account for only 1.5 percent of all farms," Rogers says. Almost 50 percent of these farms are operated by part owners.

Part owners operate 64 percent of the farms in the over-1,000-acre category, while full owners operate 22 percent, and tenants 14 percent.

Operators who own land sometimes expand their operations by leasing additional land to more fully use their capital investments, available labor, or management capabilities, Rogers says.

Young Farmers Often Start by Leasing

Leasing is also used by young operators entering farming as a means of acquiring farming experience before tying up capital and assuming the risk of land ownership.

Individuals or families operate 87 percent of all farms. Fewer than 10 percent of farms are organized as partnerships.

"Farming is not being taken over by corporations," Rogers says. Less than 4 percent of all farms are incorporated. Of farm corporations, 90 percent are family owned. Nonfamily farm corporations constitute 0.3 percent of all farms, farm 1 percent of the land, and sell 6 percent of the farm products, by value.

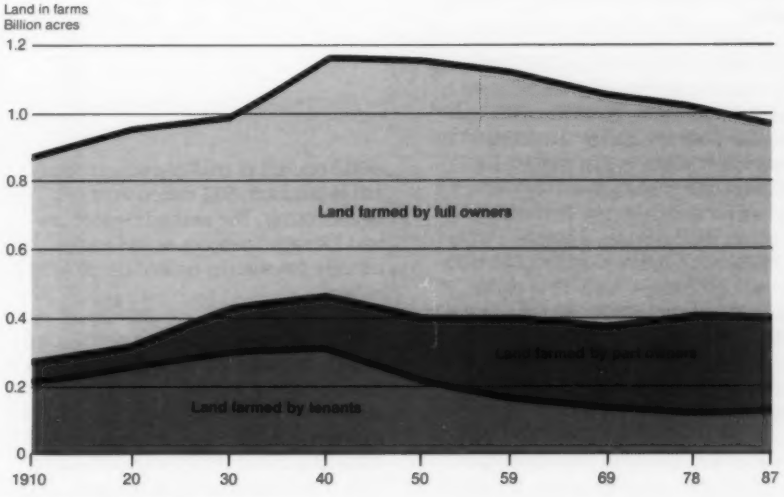
More farms are being operated by women. In 1987, there were 131,641 female farmers (an 8.2-percent increase since 1982) farming 40 million acres (a 12.8-percent increase). Women operated 6.3 percent of all farms and 4.1 percent of all land in farms.

"An aging farm population is the main reason for the increase in the number of female-operated farms," Rogers says.

Another significant trend in farm operations is a decrease in the number of black farmers. Between 1982 and 1987, the number of farms operated by blacks fell 32.9 percent and the number of acres farmed by blacks decreased 24.1 percent. "This left 22,300 farms, with 2.6 million acres, operated by blacks," Rogers says. ■

[Based primarily on information provided by economist Denise Rogers, Resources and Technology Division, Economic Research Service.]

The Amount of Land Farmed by Part Owners Has Increased Substantially in Recent Decades



Source: Census of Agriculture, various years.

Southeast Dominates Peanut Production

Peanuts are once again in the news after a hiatus dating from the drought of 1980, when production dropped 42 percent. In 1990, southeastern producers experienced another peanut crop loss due to drought. Though not nearly as drastic as that of the last decade, the pinch was felt just the same.

Although the number of acres harvested actually rose in 1990, yields were off by nearly 18 percent, says Economic Research Service economist Ian McCormick. As a result, production fell to 3.6 billion pounds, down from roughly 4 billion in 1989. Unlike the 1980 drought, which affected most peanut-producing States, this one was limited to the Southeast, where 63 percent of the peanuts were planted during 1988-90.

The southeastern peanut-producing States include Alabama, Florida, Georgia, and South Carolina. These States' combined production of nearly 2 billion pounds in 1990 was off by about 25 percent from a year earlier.

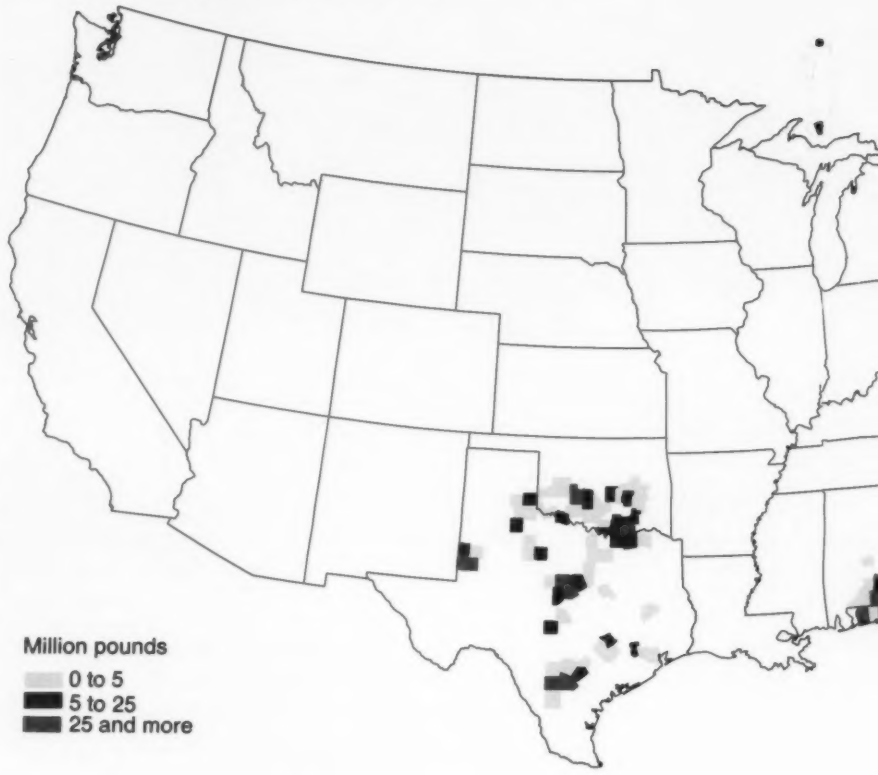
The dominant producing States, Georgia and Alabama, suffered the biggest losses. Georgia, the largest producer, harvested 1.8 billion pounds in 1989. Despite a 13-percent rise in the number of acres planted, lower yields reduced Georgia's crop to 1.3 billion pounds in 1990. Alabama harvested 390 million pounds in 1990, compared with 540 million a year earlier.

The marketable size of the 1990 crop was also affected by the generally poorer quality of the peanuts. "More of the peanuts were affected by aflatoxin, a mold found in grains that produces a harmful toxin, making them unfit for human consumption," McCormick explains. Aflatoxin was a greater problem in 1980, when the drought induced crop stress over a larger area. With higher incidence of aflatoxin, a greater percentage of the crop was crushed—peanuts that ordinarily would have gone into candy, peanut butter, or other edible products.

America's favorite use of peanuts is in peanut butter: it usually takes up half of all domestic edible peanut use. For example, in 1988/89, out of a total of 1.6 billion pounds of shelled peanuts used in edible products, 832 million went into peanut butter. The second biggest use was for salted peanuts at 381 million pounds, followed by peanut candy at 327 million.

Peanuts are grown in 9 major producing States, but about 19 States produce *some* peanuts. They are grown on approximately 18,905 farms, with 18,529 of these located in the nine major States, according to the 1987 Census of Agriculture. Peanut-producing farms have declined since the 1973 Census, when 23,046 farms grew peanuts.

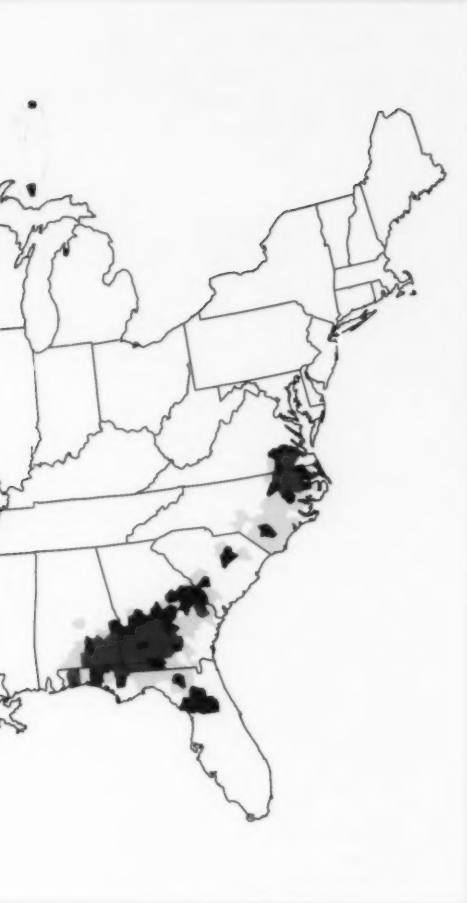
Peanut Producing Counties in the U.S.



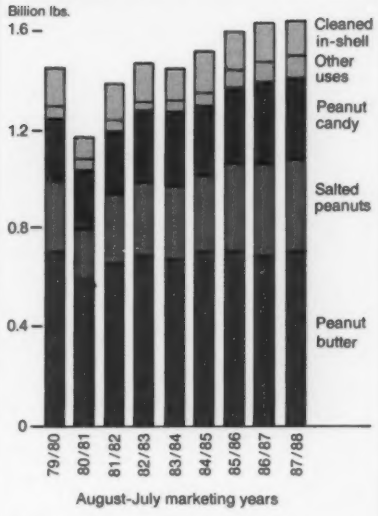
Peanut Yields by State

	1988	1989	1990
		Lbs./acre	
Virginia	2,900	2,705	3,195
North Carolina	2,745	2,435	2,900
Georgia	2,630	2,700	1,750
Florida	2,540	2,470	2,480
South Carolina	2,470	2,600	2,230
Alabama	2,380	2,250	1,510
Oklahoma	2,320	2,150	2,220
New Mexico	2,280	2,400	2,500
Texas	1,670	1,850	1,850
U.S. Average	2,445	2,426	1,991

Source: National Agricultural Statistics Service, USDA.

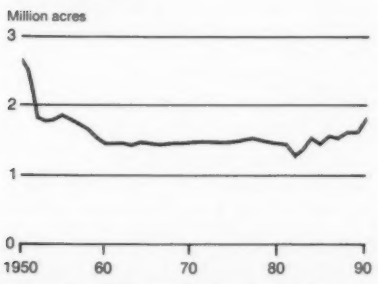


Peanut Butter Is the Major Use of Peanuts in the U.S.



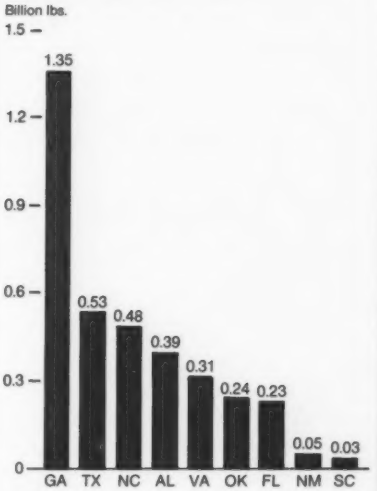
Source: Economic Research Service, USDA.

Peanut Acreage Over the Last Few Decades



Source: National Agricultural Statistics Service, USDA.

Georgia's Crop Dwarfs That of Other Peanut-Producing States



1990 production.
Source: National Agricultural Statistics Service, USDA.

There are three main types of peanuts grown in the United States—Runners, Virginia, and Spanish. A fourth type, Valencia, is grown primarily in New Mexico. Runners accounted for 79 percent of peanuts used in domestic edible products in 1989/90, Virginia, 16 percent, and Spanish, about 5 percent. Virginias are the most popular type of inshell roasted peanuts. Roasted Valencias are also popular, since they contain three or four nuts to a shell. But overall, Runners are the most important type for shelled uses.

To grow, peanuts require a well-drained, light-textured soil and a warm climate with ample rain. They take 3 to 4 months from planting to harvesting, and are often grown in rotation with wheat, soybeans, and corn.

In 1989, peanuts ranked ninth among field crops in value of production, when their value reached $1.1 billion.

Current trends show demand for peanuts climbing in response to such stimuli as the school lunch program, strong export markets, and general population growth.

The United States is about the only country that produces peanuts primarily for food use rather than for oil. Argentina, India, China, Senegal, and South Africa produce the nuts for export as edible peanuts and peanut products. Still, cooking oil use is also important in these countries.

On July 9, 1991, President Bush raised the quota on peanut imports from 2 million to 100 million pounds. That increase ceased on July 31. "Because of the timing of the increase and the availability of accessible imports, it's unlikely we imported the full 100 million pounds," McCormick explains. "The increase shouldn't affect next season's prices."

—Martha Evans

Problems and Solutions For Black Farmers

When Jesse Thompson decided to study agriculture in college, his father exploded: "Why do you want to go to school to work yourself to death on a farm?"

But Jesse persevered, and became the first in his family out of two generations of tenant farmers to attain a college degree. He is now an assistant professor of agriculture at the University of Florida.

He recognizes that for his father, a black tenant farmer, the word "agriculture" recalled a labor-intensive occupation with no future. Like field workers, most tenant farmers did not own land. They were paid from the profits of a part of the crops they planted and harvested. In the elder Thompson's day, there were only two types of farmers: the ones who controlled what was planted and when it was sold, and those who did not, known as sharecroppers.

The elder Thompson and many other black farmers were unable to cope with the revolution of twentieth–century agriculture. Farming became mechanized and chemical inputs sharply reduced labor requirements. Dissatisfied blacks began fleeing the only type of work most had known for better opportunities in northern cities.

According to demographer Calvin L. Beale of USDA's Economic Research Service, the number of black farmers plummeted from a peak of 926,000 in 1920 to a mere 23,000 in 1987—a drop of almost 98 percent. For white farmers, who had more education, money, land, and access to credit, the fall was a less drastic 66 percent: from a high of 5.96 million at their peak in 1935 to 2.04 million in 1987.

The number of black farmers fell from 926,000 in 1920 to 23,000 in 1987.

Leon Moses gassing up a tractor.
— Sheila Whitley, North Carolina A & T State University.

This decline is one of the most remarkable transformations in the history of our country, according to Beale. "It reflects the end of a set of social and economic relationships that had governed black rural life since the Civil War," he says. "Within a few decades, very large numbers of blacks migrated to cities, where most were unprepared for new jobs."

Why Black Farmers Fled

Their flight from farming seems inevitable, given the legacy of slavery and the continuation of political and economic suppression of blacks after the Civil War. For example, blacks had only limited access to such public facilities as libraries, hospitals, and adequate schools. Beale identifies tenancy, the decline in cotton production, and the small size of their farms as factors that hindered black farmers.

When the number of black farmers peaked during World War I, three-fourths of them were tenants, mostly sharecroppers. They owned no land, equipment, or animals, but instead had to depend on the landowner to provide everything from housing to seeds. The situation was exacerbated by landowners who often exploited poor, uneducated farmers.

Even those who managed to buy land were still hampered by their lack of education, inability to vote (enforced by such measures as the poll tax, as well as by intimidation and violence), small land holdings, and insufficient credit.

The boll weevil wreaked major damage on cotton farms, and by the 1920's had devastated such areas of high black population as the Black Belt in Alabama. Production was also curtailed by the erosion of large upland areas from South Carolina to Alabama, and competition from newly irrigated land in the West. After World War II, the introduction of synthetic fibers in the marketplace reduced the need for cotton. For example, synthetics replaced cotton as the fabric used with rubber in the manufacture of automobile tires and were substituted for cotton in many types of clothing.

And by the mid-twentieth century, the production of cotton depended on chemicals and mechanization rather than on back

The Black Migration Northward

Between 1910 and 1970, 6.5 million black Americans moved from the South to the North. The black migration was one of the largest and most rapid mass internal movements of people in history—perhaps *the* greatest not caused by the immediate threat of execution or starvation. In sheer numbers it outranks the migration of any other ethnic group—Italians or Irish or Jews or Poles—to this country. For blacks, the migration meant leaving what had always been their economic and social base in America and finding a new one.

— **Nicolas Lemann,** *The Promised Land*

breaking labor. Many black tenant farmers were displaced and sought jobs in the cities.

For a while, some black farmers succeeded in tobacco farming, which requires little land and is labor-intensive. By the 1970's, in fact, tobacco was the principal crop black commercial farmers depended on for a living. But as with cotton, mechanization and declining acreage gradually phased out the need for black labor.

Historically, black farms were small. In 1935, when the trend toward mechanized larger farms began, the average size of a black-operated farm in the South was 44 acres, compared with 131 acres for a white farm.

"If a black farmer wanted to expand, he typically lacked the capital or access to credit," Beale says, "and therefore could not diversify into more extensive types of farming, such as soybean or grain production."

In 1987, 46 percent of black-operated farms yielded less than $2,500 worth of products for sale, most typically small numbers of livestock. Thus most of the farmers were forced to either work other jobs off the farm or, after they retired, live off Social Security payments. Still others left the farm completely.

Education Can Help

So what can be done to help black farmers stay in farming? Encouraging youth to enter agriculture is, to people like Jesse Thompson, one answer.

Part of his work is to dispel the negative attitude toward farming expressed by his father and many other blacks—that it is a painful remnant of slavery and sharecropping.

"Black farmers have contributed to the strength of the United States as a major food producer," Thompson says, "and have deep roots in agriculture. But until they decide there is dignity in farming, we will continue to see a decline in the number of black farmers."

Changing that trend will not be easy. "In 1987, there were 63 white farmers under age 35 for every 100 who were 65 and over," says Beale. "But among black farmers, there were only 17 under age 35 for every 100 at age 65 and over." There is absolutely no hope of stabilizing the num-

Students studying agronomy. *— Courtesy of Pennsylvania State University.*

Black Farmers: A Profile

In 1987, black farmers represented just 1 percent of the Nation's 2.1 million farmers, down from 14 percent in 1920. Yet they still made up 51 percent of all minority farmers. Here are some quick facts about those 23,000 farmers:

- More than 21,000 of black-operated farms (better than 90 percent of the national total) are in the South.
- Sixty-five percent of black farmers own their farms in their entirety, up from only 16 percent in 1930.
- Nearly half of all black-operated farms are smaller than 50 acres.
- About 55 percent of black farmers specialize in livestock.
- Only about 36 percent of all black farmers had debt claims against their farm assets in 1979, compared with 47 percent of southern white farmers.

Like their white counterparts, most black farmers must seek off-farm work to supplement their income. However, their median age is nearly 60, 7 years older than the national figure for all farmers. This fact tends to limit their opportunities to get outside work.

John Gunn disking one of his fields in preparation for planting.
— Sheila Whitley, North Carolina A&T State University

ber of black farmers in this country, he says, without a major rise in the number of young blacks who enter the business—and enter it soon.

Thompson points to some success, such as the increase in the number of black students in the agricultural program at the University of Florida—up from 75 in 1988 to 103 in 1991.

He and other educators would agree that young people need to be made aware of the diversity of studies and jobs in agriculture: his own university offers more than 30 specialties in the field. Agriculture encompasses more pursuits than what one might suppose, agrees William Henson, an assistant professor of agricultural economics at Pennsylvania State University.

He points out that agricultural careers can be found in such fields as statistics, sociology, business management, genetics, and biochemistry, which require skills used in professions often considered more prestigious in minority communities. For example, an agricultural economist must have the same skills, and degree of skill, as a labor economist, an agronomist must understand applied chemistry, and an agricultural engineer must complete the same basic program as a chemical engineer.

Henson's methods of reaching the young include sponsoring agricultural job fairs in his area, as well as special courses, scholarships, and summer apprenticeship programs at Penn State for high school students. "Cultural stereotypes can be erased if people have proper training," he observes.

In 1957, Penn State had only 2 minority graduates pursuing master's degrees in agricultural science, but today that figure has risen to 17. Only 1 black in the Nation had a Ph.D. in agricultural science in the early 1960's—this number has now increased to between 15 and 20 per year. "Other large colleges have similar trends," Henson says.

Education can also help the older black farmer. In 1985, Lonnie Harrison, Jr., a 48-year-old tenant farmer with five children, started attending Small Farm Opportunity meetings and other Extension Service programs offered by North Carolina Agricultural and Technical (A&T) State University.

Eventually, Harrison's involvement there and with USDA's Soil Conservation Service, Agricultural Stabilization and Conservation Service, Forest Service, and Farmers Home Administration (FmHA) led to farming success. In 3 years he diversified from his main crop of tobacco and nearly doubled the annual gross sales. Through improved farming techniques and better management, he increased the productivity per acre of soybeans from 18 to 25 bushels, cucumbers from 150 to 170 bushels, wheat from 40 to 65 bushels, and tobacco from 2,000 to 2,100 pounds.

In 1989 Harrison was able to buy his first farmland—43 acres—through the FmHA. He also received the Dudley Award, presented by the Agricultural Extension Program at North Carolina A&T to a State farmer who demonstrates hard work and self-reliance.

The award is named for Gilmer L. Dudley (1903-76), a farmer who played an important role in the civil rights movement in North Carolina. Dudley believed strongly in education, as evidenced by the 12 degrees his 11 children have earned.

The selection committee considers a farmer's ability to adapt an important criterion, says Dr. Daniel Lyons, agricultural and natural resources coordinator at the A&T Extension Service. In 1950, there were 289,000 farms in North Carolina. That number has now fallen to 60,000. Farmers such as Harrison, who are able to persevere despite economic adversity, are adapting. They are taking advantage of the knowledge the Extension Service offers. ■

[Based primarily on information provided by demographer Calvin L. Beale, Agriculture and Rural Economy Division, Economic Research Service.]

Drought Reduces Western Surface Water Supplies

This article—the first in a two-part series—describes the impacts of the ongoing drought on surface water supplies in the Western States. The use of ground water for irrigation will be examined in a companion article scheduled for the November issue of Farmline.

Many Western States are in the throes of one of the worst droughts on record, and State and Federal authorities are pondering what measures to take.

"Water policies have great influence in Western States, which depend heavily on publicly financed water supplies for their agricultural, industrial, and municipal needs," explain economists Noel Gollehon and Marcel Aillery of USDA's Economic Research Service. "In many parts of the West, crop production depends on irrigation from ground and surface water supplies."

In 1989, for example, the Interior Department's Bureau of Reclamation provided the 17 Western States with 40.1 million acre-feet of contracted water. (An acre-foot is about 326,000 gallons—enough to cover a 1-acre field with water 1 foot deep.) Roughly 25.7 million acre-feet went to farms, 3.5 million went for municipal and industrial uses, and the remainder went for other uses or escaped from the delivery system.

"Water policies have great influence in Western States."

Surface water includes direct diversions from streams and releases of water stored in reservoirs. Of the approximately 37 million irrigated acres in the West in 1988, roughly 18.5 million—50 percent—were partly or fully supplied by surface water.

This Year's Drought

The Palmer Drought Severity Index, which measures long-term moisture conditions, indicates that the Nation's drought-stricken area has actually decreased since 1990. Nevertheless, drought conditions remain critical in certain areas.

The most seriously affected areas include Nevada, California, eastern Oregon and Washington, and parts of Idaho, Wyoming, Colorado, and Utah. Moderate drought conditions prevail in North Dakota and the southern High Plains of Texas and New Mexico.

Areas of California and Nevada are struggling through their fifth consecutive year of drought, and portions of North Dakota, the Pacific Northwest, and the Central Mountain region are in their fourth consecutive year. A new drought developing on the southern High Plains is also causing concern.

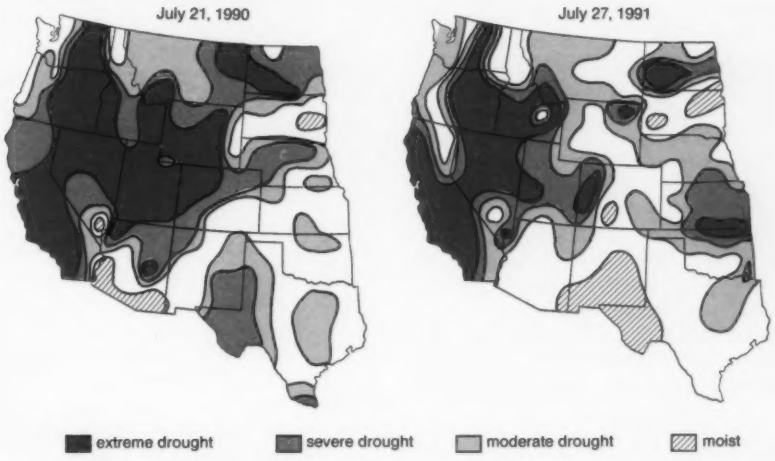
The summer streamflow is expected to have been poor for most parts of the West that rely on surface water irrigation. The National Weather Service and USDA's Soil Conservation Service estimated streamflow at less than 70 percent of normal for much of the Colorado, Snake, and California Basins, based on spring flows, observed snowpack, and the anticipation of normal summer rainfall. Only the Upper Missouri River, Columbia, and Rio Grande Basins are expected to have had near- or above-normal streamflow this past summer.

"Water storage levels in reservoirs supplying irrigation were less than 90 percent of normal in 7 of 11 Western States going into the 1991 irrigation season," Gollehon and Aillery state. Nevada experienced the most acute shortages—several successive years of declining stocks have depleted this State's reservoirs to very low levels.

California's reservoir levels plummeted to 64 percent of normal, down from 72 percent in early 1990. Oregon, Montana, Idaho, Wyoming, and Utah also reported further declines from the below-normal reserves of last year.

On a brighter note, Arizona reported a substantial increase in stored water from the 50 percent of normal it had in 1990. Water

Although Moisture Conditions Have Improved in the West, Some Areas Are Still Experiencing Drought



Based on Palmer Long-Term Drought Severity Index.
Source: NOAA/USDA Joint Agricultural Weather Facility.

storage levels in Colorado, New Mexico, and Washington have remained well above normal.

Drought's Impact Widespread

The drought is having serious effects on agriculture and the environment. In contrast to dryland acreage, irrigated cropland—which relies more on stored water than on recent precipitation—is sometimes shielded from the true severity of a drought. However, prolonged dry spells affect irrigated production through reduced water storage levels.

The current low levels of streamflow and reservoir storage have limited the amount of surface water available for irrigation in several Western States, with California experiencing the most extensive and substantial reductions.

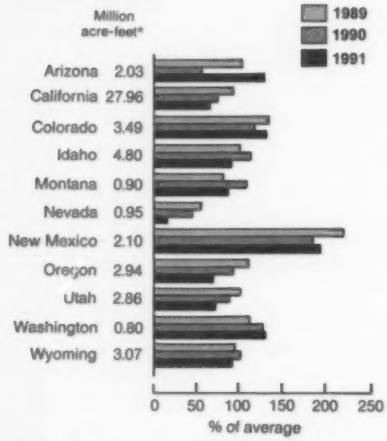
The impacts were likely most acute on low-value forage crops, less significant on field cash crops, and negligible on high-value specialty crops. "But the actual impacts vary among individual producers," Aillery and Gollehon point out, "based in large part on their access to dependable ground water supplies."

Forest growth has also suffered: it's estimated that one out of every three trees in the Tahoe National Forest has been lost. The parched conditions make the landscape increasingly vulnerable to range, brush, and forest fires. Wildlife also suffers from lack of food and water, and some species may be facing extinction.

Officials are looking at several alternatives to cope with current regional shortages, ranging from conservation, to building plants to desalinate sea water; to importing fresh water in ships from Canada. The drought's impact on agriculture has been less exotic, prompting producers to cut down on planted acreage and turn to extensive (and expensive) pumping of ground water.

The West is affected in other ways too. Low reservoir levels are hampering hydroelectric power generation. To compound the problem, those areas experiencing low streamflow and reservoir levels are the very places that have greater needs for ground water and, consequently, increased power demands for pumping it.

This Year, Surface Water Storage Levels Have Fallen in Several Western States



*Historic May 1 average. An acre-foot is about 326,000 gallons.

Sources: USDA/SCS Central Forecast System and California Department of Water Resources.

Recreational and Environmental Needs Rising

As in the case of agriculture, the amount of water available for recreational uses has been curtailed. "Recreation has emerged as an important source of revenue for many western communities," the economists observe, "so continued reductions in surface water supplies will probably have serious consequences for State and local economies." The recreational activities most directly affected by falling water storage levels include sport fishing and lake and downstream boating. Businesses that support these activities—stores, motels, and equipment rental outlets, to name a few—are affected too.

Irrigation, transportation, and power generation currently constitute the top Federal priorities in managing western river systems. "But mounting pressure to give greater consideration to the support of recreational activities underscores the increasing economic and political importance of this sector," Gollehon and Aillery observe.

Environmental interests are also pressing for the establishment of minimum flow requirements to maintain instream and wildlife habitats under dry conditions.

In the Pacific Northwest, debate has centered on managing hydroelectric power stations in a way that preserves traditional salmon runs, and on modifying the dam sites to allow the salmon to return to their spawning grounds. Meanwhile, minimum stream outflows to maintain water quality standards for aquatic life have been established for the San Francisco Bay estuary.

In an innovative departure from conventional efforts to protect wildlife habitat, a private conservation organization has purchased water rights in Nevada to sustain minimum flow requirements in the Stillwater National Wildlife Refuge during dry years. And there are some signs that environmental considerations now play a larger role in the Federal Government's approach to water supply management.

"The Environmental Protection Agency's veto of the Two Forks Dam project in Colorado is perhaps the most significant indication of this new approach," the economists say. "Federal opposition to the dam focused in large part on wildlife protection, such as preserving upstream trout fisheries and downstream habitat for migratory waterfowl."

A Look Down the Road

The drought, once viewed as a short-term problem, now looms as a chronic condition. "In many areas of the West, several years of normal precipitation are needed to replenish water supplies to near-normal levels," Aillery and Gollehon explain. "The pressure to conserve water and make structural adjustments in the region's water allocation system will likely continue for the foreseeable future."

Traditional Water Rights

Throughout the West, rights to ground and surface water are almost always based on the *prior appropriation doctrine*. This means that a right to the water is established by the date on which a quantity was first diverted for beneficial use—hence the expression "first in time, first in right."

ERS economists Noel Gollehon and Marcel Aillery explain that using water for irrigation and for municipal and industrial needs has historically been considered beneficial. But there has been no financial incentive to conserve water for other purposes, such as maintaining instream flow or selling it to other economic sectors. Instream purposes are those that do not divert water—such as recreational activities and the preservation of wildlife habitat and scenic beauty.

Once a water right for a specified quantity has been granted for a particular use (such as irrigation), the holder of the right may use all or part of the water entitlement (provided this does not interfere with a more senior right). As a general rule, the right holder is prohibited from selling part of the entitlement for another purpose.

The right holder has the choice of either using all of his or her entitlement, or letting the unused water flow to others with more junior rights. "A senior right holder thus has little incentive to use water more efficiently, since the holder can only use it or lose it," Gollehon observes.

Except in certain special cases, recipients of State and Federal water do not hold the rights to the water themselves—just the right to use it. "As a general rule, the States retain primacy over water rights," Gollehon says.

Each State has an agency, governing body, or State engineer charged with making decisions about water allocation. Most States also have a scale of priorities for allocating water to ensure that in times of shortage, the health and safety needs of people are met first.

"In addition, local authorities and other groups influence water allocation, as do the courts," Gollehon explains. "The courts originally settled disputes over interstate allocations, and now also interpret the provisions of the Clean Water Acts and endangered species legislation."

The economists point out that even if precipitation returned to normal, authorities probably would not be able to provide western farmers with their full allotments immediately. "A need exists to allow depleted supplies in reservoirs to rise and to permit streams to flow at more normal levels," they note.

"The largest share of water in Western States is used for agricultural purposes," Gollehon and Aillery explain. "Because opportunities for constructing new large-scale water projects are few, water to meet the needs of the West's growing urban centers will likely have to be drawn from agriculture. This course will require still more efficient use of existing resources."

Despite the problems it has caused, the drought could provide the impetus to improve the efficiency of water use in the West. "For example, the Bureau of Reclamation currently awards water contracts for a fixed quantity over 40 years at a fixed price," Gollehon observes. "Any or all of these stipulations could change."

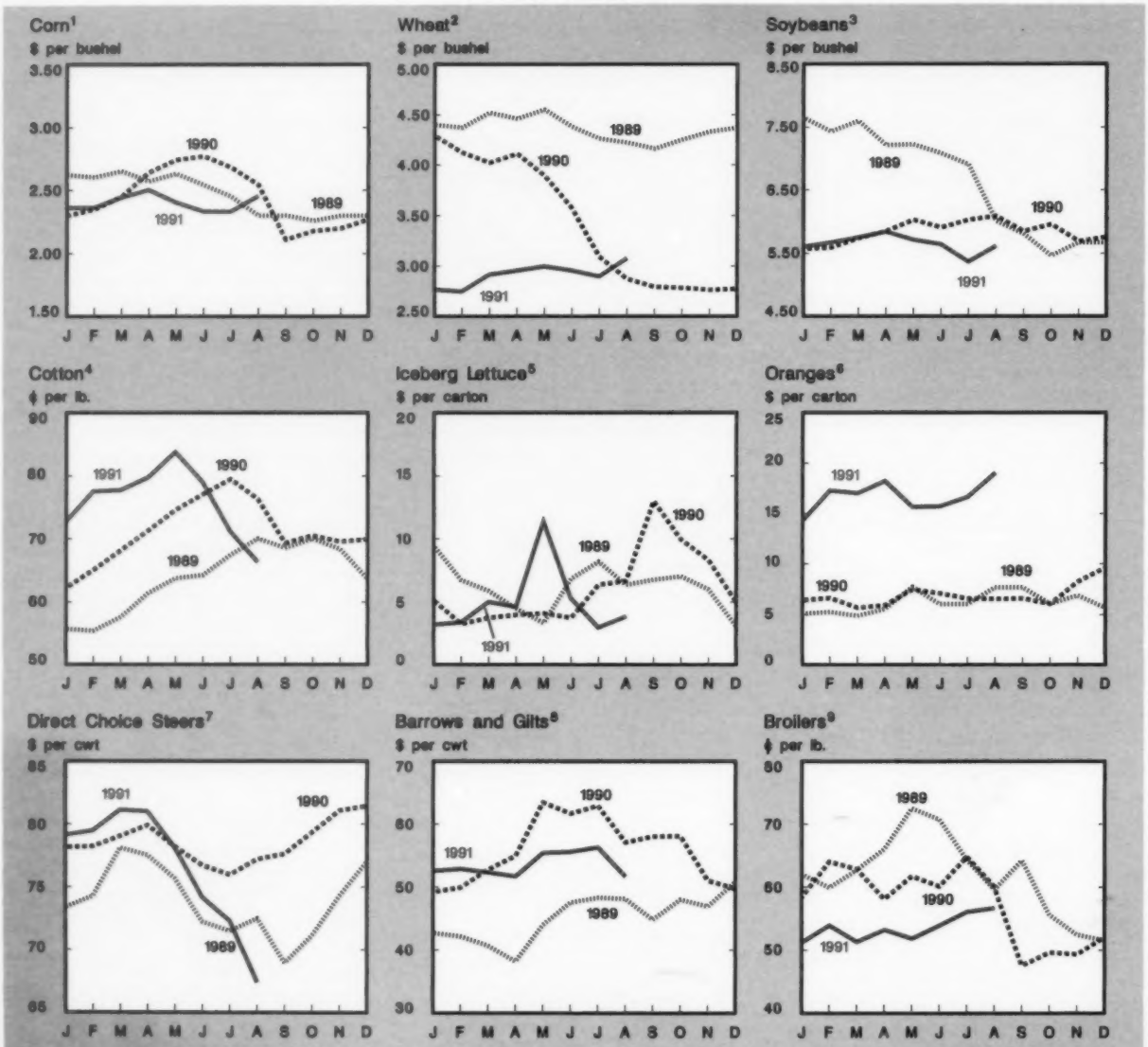
Over the next few years, Gollehon and Aillery anticipate that regulatory authorities will manage water supplies more closely, perhaps holding more water in storage to tide the areas over during dry periods. But they view the chances of a major overhaul of the water supply system as unlikely.

Institutional changes could enhance efficient water use. For example, users who have plentiful water supplies are often barred by institutional prohibitions from transferring them to others who don't have enough. "Legislative or other changes in Bureau of Reclamation rules and water laws in Western States could lower these barriers and reward users for conserving water," the economists note. "Incentives to invest in water-conserving technologies could be increased if the 'use-it-or-lose-it' nature of the water rights were modified." ■

[Based on information provided by economists Noel Gollehon and Marcel Aillery, Resources and Technology Division, Economic Research Service. To find out more about water supplies, cropland, and conservation, order the September 1991 Agricultural Resources Situation and Outlook *by calling 1-800-999-6779.]*

Monthly Price Monitor

USDA's August 1991 inflation-adjusted index of farm prices, from the National Agricultural Statistics Service's Agricultural Prices report, was 2.7% below July and also 3.3% below its year-earlier level. Wholesale market prices follow. Corn moved up to $2.46 per bushel and wheat increased to $3.08, its highest level since July 1990. Soybeans rebounded to an average of $5.62, after a near-2-year low of $5.37 per bushel. Cotton continued downward to 66.4¢ per pound, the lowest since February 1990. Lettuce rose to $3.88 per carton. Oranges, still affected by the California freeze, jumped to $19.06 per carton. In the meat animals area, direct choice steers dropped nearly $5 to $67.45 per cwt, the lowest since July 1988. Barrows and gilts also dropped nearly $5 to $51.68 per cwt. Broilers were virtually unchanged at 56.7¢ per lb.



[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16", spot market price. [5]Standard carton 24's, California-Arizona. [6]Central California, Standard carton. [7]Nebraska. [8]Omaha. [9]Wholesale, New York. All prices shown are monthly averages.

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